To be posted on Regulations.gov 10/5/10:

On behalf of myself and the 26 students in the University of Richmond Environmental Law and Policy course, Fall 2010, I urge the EPA to adopt a TMDL that restores the health of our national estuary, the Chesapeake Bay. I attach students' full comments.

Students are angered by a dirty Bay. One states simply, "As a Virginian, and a citizen who deserves the right to have a clean bay, I say save the Bay." (Ellen Goodrich-Stuart). Another says the "Bay continues to fall way below the standards necessary for a healthy environment." (Danielle Feder) Still another writes, "The Bay is possibly our greatest saltwater resource, and it would be a shame to lose its wealth of aquatic species and the income it brings to countless Virginians because we could not come up with specific and definitive measures to protect it." (Nils Neimeier)

Students are personally familiar with the Bay's degraded quality, through educational programs (Ellen Goodrich-Stuart), impairment of recreational use (Nathanial Asbeil), familiarity with beach closures (Victoria Baldwin), firsthand observations of algal growth (Michelle Johnson), and knowledge of advisories to refrain from eating fish (Will Gordon).

Students criticize the Virginia Watershed Implementation Plan. They believe it "fail[s] to identify specific actions to achieve [pollution] reduction" (Carrie O'Rourke). The "overall wording and tone of the [Virginia WIP] lacks a commitment to making productive change" (Sara Johnson) and "the primary roadblock to achieving the pollution reduction quantities in the TMDL and to implementing the plans mentioned in the WIP is the lack of specifications and actual implementation strategies." (Nicole Prunetti) The WIP is "vague as to how it will achieve reductions in single household pollution, and how it will interact with homeowners to achieve reductions." (Elspeth McIntyre) Students implore Virginia to set "specific mandates and goals" (Liz Cohan) and "incorporate specific tactics for farms" (Rebecca Rose).

A student observes, "Cleaning up the Chesapeake Bay will lead to greater public health and safety, more stable jobs, and even give a boost to the economy." (Alex Lescroart) We must act now. "[T]here is no room for failure " (Jordan Baxter) and "the challenge to restore the bay should be regarded as … doable, not insurmountable." (Milos Jovanovic)

Ellen Goodrich-Stuart

Save the Bay

In eighth grade, I went to a camp through Johns Hopkins University in Baltimore, Maryland that educated 8th, 9th, and 10th graders about three specific organisms in the Chesapeake Bay; whales, blue crabs, and oysters. I saw first hand the invasive grasses covering the places that had once been pristine habitat for the crabs and other native organisms.

On our days traveling through the Bay, I rarely saw an oyster; those water-filtering organisms that used to be so abundant, providing jobs for watermen, food for people, and clean water for the entire ecosystem.

Stricter regulations with actual consequences need to be put into place quickly. The more time wasted the more bay lost and the worse off the economy in the long run. Something needs to be done now, and if it hurts for a short time it will get better, but of nothing is done, it will continue worsen. As a Virginian, and a citizen who deserves the right to have a clean bay, I say save the Bay.

Nils Niemeier

As a Virginia resident, I would hope that the state would come up with more stringent/effective measures to curb/reduce Chesapeake Bay pollution from runoff and other sources. I live on a manmade lake in Northern Virginia that drains its overflow water into the Chesapeake Bay, along with all the storm drains in our area. Every year, I have seen algal blooms in the lake that are caused by the myriad fertilizers and other runoff (including avian feces from our local Canada goose flock) that go into the lake from the houses, driveways, and lawns surrounding it. It is humbling to know that these same fertilizers and runoff that cause these blooms go from the lake into the Chesapeake Bay, where they end up mixing with other fertilizers to create eutrophic zones within the Bay that harm water quality and suck dissolved oxygen from the water (killing underwater grasses and aquatic organisms like mussels, oysters, and crabs). When I think that the state's planned allocation for nitrogen and phosphorus for the James River does not meet the target required to declare it healthy, I wonder if the same things that happen on my lake will happen here, too (Summary Virginia WIP Evaluation 9/24/2010, 1). By not creating a clearer, more specific plan for cleaning up the Bay and reducing water pollution (as opposed to only saying that "The state will consider broader incentives and other mechanisms for nutrient management plans"—what does this mean? Considering is not doing), the Bay will continue to suffer thanks to the pollutants brought to it by the James, my lake, and other bodies of water in the watershed (Summary Virginia WIP Evaluation 9/24/2010, 1).

The state also has to create real and clear incentives to begin cleaning pollutants out of Virginia waters. According to the EPA's review of the Virginia Watershed Implementation Plan (WIP), the WIP does not "include legislative and regulatory changes that would support high implementation rates" (Summary Virginia WIP Evaluation 9/24/2010, 1) This means that the state does not provide any ways that would get polluters to begin reducing their pollution at high levels. This means that the state is going to have to spend more money on reducing pollution rather than getting polluters to do the footwork. It would cost less for the state to get

dischargers to work proactively to lessen runoff or discharge as opposed to retroactively working to clean up the aftermath. This is a state led by fiscal conservatives—would they not desire to reduce pollution by spending the least amount of state funds?

I would hope that the state of Virginia would take these thoughts into account when redrafting/amending the current Virginia WIP. The Bay is possibly our greatest saltwater resource, and it would be a shame to lose its wealth of aquatic species and the income it brings to countless Virginians because we could not come up with specific and definitive measures to protect it.

Nicole Prunetti

I will begin by stating that after reading the EPA Draft TMDL and the Virginia WIP and listening to Ann Jennings' lecture, I agree that the primary roadblock to achieving the pollution reduction quantities in the TMDL and to implementing the plans mentioned in the WIP is the lack of specifications and actual implementation strategies. Though these documents purport to give such specifications, they remain extremely vague on how those numbers should be achieved and how those strategies should be put into practice. Without these specifications, these documents leave too much room for error and for wasted time.

Though the EPA Draft TMDL is extremely imprecise, I find the WIP's indistinctness to be extremely problematic. One area in which I believe this cannot afford to happen – and in which the EPA needs to seriously consider revising its stipulated provisions – is the area of source sector strategies, with a particular concentration non-point sources and specifically, agriculture. As Ann Jennings specified in her presentation, agriculture accounts for 34% of Virginia's nitrogen pollution to the Chesapeake Bay system – the largest source of nitrogen pollution (though wastewater, at 30%, is a close second). Consequently, this area presents the most significant opportunity for improvement. Suggestions to reduce pollution levels such as "implement nutrient management plans on most crop and hay acres" and "achieve near total stream exclusion of livestock overtime" simply cannot do (VA WIP, p. 13). The EPA needs to address how farms should implement nutrient management or provide significant incentives or mandates to encourage farms to adopt these practices; indeed, the WIP devotes only a few lines to the discussion of the tax credit incentive provided to farmers who implement nutrient management plans (VA WIP, p. 55). The EPA needs to set a timeline or designate incremental, percentage goals for excluding livestock from streams in order to reduce animal waste-polluted water, rather than simply state that this must be achieved "overtime" which could mean decades or centuries! Non-point sources such as agriculture (or ones that fall into a strange, grey area between point and non-point sources) need more specified attention in the WIP because of their ambiguous nature and their significant contribution to the state's water pollution.

Another aspect of Virginia's WIP that needs a serious overhaul is the mention of investment in research and development, specifically regarding the harmful, excess nutrients in wastewater, a significant source of pollution. The WIP states that "new technologies and management procedures will need to be explored to address these types of effects from the greater emphasis on removing nutrients from wastewater" (VA WIP, p. 50), however it does not provide any further information about this. As with the aforementioned agricultural pollution and the WIP in general, this discussion needs to be more specific. Perhaps the WIP could designate a specific committee for research and development or set feasible, "technology goals" that must be met by designated time increments. At the very least, the WIP should give more attention to research and development and what part they will play in reducing the water pollution in Virginia.

Nathanial Asbeil

The most important thing the EPA needs to consider in the discussion on the Virginia WIP is specific goals and guidelines for reaching those goals. It is not enough just to promise the citizens of Virginia who have legal rights to clean water in both federal statutes and Virginia's own constitution without creating a system in which these goals can actually be reached. The EPA should most specifically revise issues concerning the TMDL with regards to more stringent point source regulations. Although the regulation of non-point sources would be even more important to the commonwealth it is understandable that this type of regulation is even more difficult than point source reduction. Most importantly the state of Virginia in their WIP must at least meet EPA guidelines. Currently the state supports a reduction in Nitrogen levels in the James that is almost 3 million tons higher than what the EPA has mandated.

While not a Virginian I still have a vested interest in the water quality of the James as a tributary to the Chesapeake Bay. I was born and raised in Annapolis Maryland and use the Bay regularly, from being a part of my highschool rowing team, to simple recreation on the water, to a love for Bay shellfish. All of these activities are put in jeapordy by the hasardous conditions of the Bay. As an intern for Anne Arundel County's recreational waters program this summer I have firsthand knowledge of the terrible quality to the water lately. This summer was the worst summer the county has seen in a long time with regular closures of recreational beaches due to elevated levels of enterococci bacteria. This bacteria is found in animal waste and bacterial levels rise as the water becomes continually warmer through nutrient pollution and algal blooms that insulate the water and reward mammals that stay to feed off of the abundance of algae. Without a serious reduction in our point source runoff with an effective WIP that categorizes exactly how and when our waters will be repaired we risk losing a major source of joy, economic fulfillment, and most importantly a historic landmark fundamental to the beginnings of this country.

Victoria Baldwin

The Chesapeake Bay is an extremely important estuary for the millions of people that live in the areas surrounding it. Taking precautions now to protect the Bay will allow future generations to enjoy its splendor and reap its benefits for decades. An enforceable plan needs to be implemented in order to ensure that pollution feeding into the Bay is reduced and the ecosystem remains harmonious. The EPA TMDL is important in helping achieve this goal. This number is not arbitrary. According to section 303d 1D of the TDML, the daily estimate takes into consideration "the normal water temperatures, flow rates, seasonal variations, existing sources of heat input, and the dissipative capacity of the identified waters of parts thereof." Compliance to this section of the Clear Water Act is important in cleaning up the Bay and keeping pollutants out of it. The Virginia Watershed Implementation Plan is supposed to be the first steps in addressing this pollution problem, but it has a long way to go.

Virginia's plan to reduce pollution relies heavily on an expanded nutrient credit exchange program (WIP p. 5). The issue with this solution is accountability. It seems that if a firm as enough money, they may buy credits from other firms and (as long as they continue to meet the minimum pollution reduction numbers) continue to pollute. There are a few problems with this plan. First of all, if certain firms are polluting heavily, areas of high concentrations of pollution will develop and as they move downstream and into the Bay, they will adversely affect the ecosystem. Also, this cap and trade system does not produce any incentives for firms to further reduce their pollution outputs or to develop intuitive ways to lessen the cost of reducing their pollution. According to Governor McDonnell in the introduction to Virginia's WIP, addressed issues of job loss and economic hardship. It's important to understand that initial costs may be higher, but many times in the long run, these actions and precautions will end up saving money. From another standpoint, the state tourism economy (which Governor McDonnell made a big focus during and after this year's General Assembly session) will take a negative hit. As a Virginia resident, I remember beaches in Virginia Beach being closed during the peak summer season due to pollution-induced high bacteria counts. Closer to home, the James River in the Richmond area has been affected with the same sort of pollution-based bacterial problems during the summer. The James is known for its rapids and Virginia Beach for its fun family atmosphere. If these areas and others like them continue to be plagued by pollution, tourists are going to venture to other places, far from harmful, polluted waters and in this economically hard time the state does not need to lose tourist revenue. It comes down to the fact that the Commonwealth of Virginia needs to take a stronger stance on reducing pollution in the Chesapeake Bay, not only for future generations, but for today's population- those who rely on the Bay and its tributaries for livelihood, recreation, and more.

Michelle Johnson

As a resident of southeastern Pennsylvania, I did not realize that my hometown, though seemingly hundreds of miles from the Chesapeake Bay, has been playing a role in the pollution of the

Bay for decades. I feel that, as a resident of an area which directly impacts the condition of the Bay, my familiarity with the ailing Chesapeake is unsettlingly limited. I strongly believe that more education and publicity is necessary in all states involved, no matter how far removed the area seems to be. However, I have been fortunate to learn much about the current situation as a temporary Virginia resident while studying at the University of Richmond. Regarding the VA WIP, I find the Interim Load Targets in Section 4 to be insufficient; a goal as important as this cannot be achieved when the allocations are merely described as "2017 load targets" (26). What will be the consequences for those who are not meeting their required standard to decrease pollution? Surely reserving the "option of revising this projection" (26) is not the most lucrative answer. Just as incentives are given to reduce pollution, consequences need to be clearly laid out when directives given by the state are not followed. Without penalties, what is to prevent parties from ignoring their impact? The condition of the Bay speaks to the results of ignorance.

Though I have no direct experience with the Chesapeake Bay, becoming educated about the Bay and its current condition made me realize that I have in fact seem the implications of the high pollution levels on the Bay. I frequent the train on the Northeast Corridor to travel back and forth between Pennsylvania, which usually rides parallel to the Bay. Traveling just a week ago, I noticed an unusual amount of algae on the surface of many portions of the Bay. I figured the lack of rain had something to do with the increased algae, but quickly learned that algal blooms due to immense pollution were to blame. The algal blooms did not impact my life in any way aside from decreasing the aesthetic pleasure of my trip, but I can only imagine how algal blooms have caused problems for those who build their lives around the Chesapeake. Algal blooms are just one very visible sign of the need for legislation to improve the ailing bay; I can only imagine what one would see if we could get a glimpse at the ecosystem suffocated by the bloom.

Liz Cohan

As Ann Jennings pointed out in her presentation, the Chesapeake Bay is one of the largest estuaries in the world as well as one of the most polluted. It is important for the EPA to keep in mind that in order to decrease the amount of damage done on the bay, steps must be taken in other states to prevent pollution from running downstream in the Virginian area. If the EPA only focuses on the main part of the bay, the problem will never be resolved. Because the Chesapeake Bay holds over 3,600 species of plants and animals, this is essential to the restoration of one of the greatest watersheds in the world.

Jenning's presentation also pointed out that most of the pollution damaging the bay is coming from agriculture, wastewater, and urban runoff. If it is well known that this is where the problem lies, I believe the EPA should focus all their energy on the causes of the main problems. Once these are under control, it will be easier to focus on the less damaging causes of pollution. The use of TMDLs are a great help in this situation because they can be used to primarily focus on the problems of agriculture runoff and wastewater. Under the Clean Water Act, I believe the EPA should rewrite the previously written TMDL to propose stricter standards of point sources. I also think that the EPA should have less pollution discharge permits. The more of these permits the EPA allows, the less effective the CWA and TMDLs will be. The Watershed Implementation Plans (WIP) should also be revised by the EPA to be more effective. Instead of making vague references such as "authorities will be considered..."(pg 78) and "the board could mandate..." (pg 89), the EPA should include very specific mandates and goals for companies to fulfill. A WIP that includes these examples in them makes it seem as if it is more of a suggestion then the law that they must obey. The EPA should instead write what WILL happen to achieve less pollution from point and non point sources and also include what authorizes will oversee this and what actions will be done. Laying out a specific groundwork will help the Chesapeake Bay clean up faster.

Sara Johnson

In VA's WIP, the biggest plan the state seems to have for addressing the need for better pollution control is an expansion of its current Nutrient Credit Exchange Program. The state supports such an expansion without evaluating the effectiveness of the current program in actually reducing the pollution it is supposed to be reducing, or discussing issues with accountability and having valid measurements authoritatively tracked through this exchange program. The document's argument for an expansion would be better supported if comments on market limits within trading region and the nutrient being traded were gone over, to prove the systems produces valid results and will do its best in preventing the hot spots that arise under most credit exchanges. The state's new plan is also concerning because its diagram (p.4-5) shows that under the current program only two sectors are buying credits, with four selling, and the new diagram shows now four sectors buying credits, with the addition of on-site systems and agriculture able to not just sell but also buy permits. It seems alarming the state feels agriculture, one of the major contributors to nitrogen/phosphorus pollution, should now be able to buy credits that would allow some farms to not reduce but just buy their way out of the problem. Plus, with the addition of these new sectors into the program, there will be an increased need for monitoring /authoritative oversight, and we don't know whether those same sectors from will even be able to reduce enough to feasibly meet the demand for the increased amount of credits expected to be bought. One of the benefits VA WIP gives for this program (p.6) is that it allows for "the citizens of

the Commonwealth to determine the priority for what nutrient reduction actions need to be taken and by when." How this is a benefit seems a bit fuzzy, since the general Commonwealth population is not highly educated on such a specialized issue as the scientific and/or policy background of pollution into the Bay, or the severity of the current situation and effects it is having on their health, certain economic sectors, and their range of recreational activities.

Besides the shortcomings with Virginia's main plan of expanding trade credits, the overall wording and tone of the document lacks a commitment to making productive change. In listing the guiding principles of the WIP (p. 2), a principle given is "credit past progress," meaning dwelling on the past successes in clean-up when considering the need to a large amount of future clean-up; a principle reflecting the rather whining sentiments of the preface that said we cannot forget the $8 billion of taxpayer's dollars already invested in the effort. Putting this in as a guiding principle shows Virginia's hesitance to accept that more drastic legislation and regulation is necessary and recognize the need to completely focus on future actions. Along the same lines, the Background and Approach paragraphs (p. 3) suggest that cost will be the number one factor in determining which pollution abatement methods are employed, going so far as to imply cost will trump benefit analysis in decision making. Virginia's wariness towards setting out definitive action is expressed through saying the entire WIP contains only "broad" strategies (p. 2), in context a 'loose plan,' the fact it doesn't present any new plan, just tweaking of old regulations with a few minor additions, as indicated by the lack of incremental deadlines, unclear set levels, and "consider revisions" and "explore feasibility" phrases under the source sector paragraphs. For the James River, which should be of most concern to us Richmond residents, the plan pushes for the river to not have to meet standards set out by the EPA since the river was already placed under chlorophyll restrictions in 2005. Instead the plan thinks considering any sort of regulation for the James should be put completely on hold until a detailed three year study is conducted to determine 'more accurate' scientific readings of the effects of pollution on the James, rather than the measurements provided by the EPA model, and to analyze the economic costs to industry. All of this means a longer delay on clean water, and Virginia putting off its responsibility to the Bay that has provided for it since colonization.

Will Gordon

Virginia has been working to clean up the Chesapeake Bay and its watershed for over sixty years and over that time we have seen nothing but further degradation of water quality. According to Article XI Section 7 of the Constitution of Virginia, "it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth." As a citizen of Virginia I do not feel like this has been accomplished when the Virginia Department of Health has to issue advisories warning people not to eat more than two meals a month from the James River and its tributaries, and for some fish below Richmond it's advised that they

should never be eaten. This is clearly not protecting the waters from pollution, impairment, and destructions, and defiantly does not serve the general welfare of the people.

The state government has had its chance to prove that it could affect real change and has shown that it cannot. It is time for the EPA to step in and hold the state to a higher standard. One of the major issues that I have with the Virginia WIP is that it focuses heavily on Nutrient Credit Exchange, which will inevitably lead to "hot spots" where pollution is concentrated in one area causing maximum damage. By allowing for hot sports to occur the plan will solve problems in some areas, but could cause even greater damage in others. Another concern is the use of vague language, meant to provide flexibility to industries, which does not establish clear guidelines of when certain things need to be done. For example when discussing the techniques the agriculture industry should implement the goal of 2017 is laid down, but smaller steps before that are absent. These smaller steps would help to ensure that the goal is met on time by everyone, which is ultimately the goal.

Rebecca Rose

The Chesapeake Bay's condition is far from healthy. The Virginia Executive Director of the Chesapeake Bay Foundation, Anne Jennings explained our failing health rating (28/100) compared to our goal health rating (70/100), with a short-term goal of 40% healthy. The Bay's bad state not only affects our public health, but it also alters our economic prosperity. The 64,000 square miles of bay water are used for many land uses and practices; therefore the EPA is working on a solution to fix this unhealthy water body. The EPA has already drafted a TMDL, and a WIP with plans and goals for a healthier Chesapeake Bay.

According to Anne Jennings' presentation 34% of our Bay's problems come from agriculture and 30% comes from wastewater treatment plants. Those two sources of pollution must be inspected closely on the TMDL and WIP, They are the two leading causes of pollution and I consider them the most crucial areas to evaluate and fix. In the Draft WIP wastewater is a point of focus but shows much reliance on trading programs such as Nutrient Credit Exchange, there is no major focus on creating whole new regulations. New regulations in the VA WIP may be the only solution due to our lack of progress in the past. The WIP lacks a description of how VA will organize to purchase or sell credits for wastewater and agricultural runoff within a set time period. Although the VA WIP shows concern for Agricultural runoff it does not specify any regulations dealing with onsite inspections or audits to verify that farms are using proper techniques and implemented BMP's. The VA WIP must incorporate specific tactics for farms, allowing each farm to be closely inspected multiple times each year. Since, agricultural runoff has such an impact on the Bay, TMDL's and the

VA WIP must specify audits of farmland. The VA WIP and the draft TMDL show room for improvement in regards to the Bay, but we still need to work on the specifics and imply entirely new regulations to see progress.

Carrie O'Rourke

My biggest concern is that the VA WIP has no implementation plans. An effective WIP should contain a plan or sequence of action(s) to achieve a reduction in pollution. The preamble of the VA WIP on p. 2 says the WIP contains plans that provide "board strategies proposed to meet those allocations." It seems to me that the VA WIP is setting itself up for failure by failing to identify specific actions to achieve reduction. The WIP contains many proposals for agriculture, waste water, septic and urban storm water but no method of action. For example page 13 of the VA WIP where agricultural practices are addressed it states "it is the expectation of this plan that these practices will be widely implemented on agricultural lands." The VA WIP expects that its proposals are "widely implemented" but never explains how. I think that if Virginia has been working over the past several decades on improving health of the Chesapeake Bay and has invested billions of dollars water quality it has should care enough to put forth a better WIP that works to carry out its goals. It is time for Virginia to take responsibility, take action, and actually follow through with legislation or mandates to implement its strategies.

In regards to agriculture I think the VA WIP should put more weight on agricultural land management practices in reducing runoff rather than in relying on expanding the nutrient management credit program. One of the plans for agriculture on page 13 of WIP is to "implement nutrient management plans on most crop and hay acres". However, the WIP provides little details of what constitutes nutrient management. I think the WIP should place a much greater emphasis and provide greater detail on this strategy. In my opinion mandating farmers to adopt certain practices to prevent of runoff from their fields seems to be a more straightforward method that will result in immediate pollution reductions that I think the Bay needs.

Milos Jovanovic

As a resident of Maryland, I have been aware of the plight of the bay for a long time. However, it is my understanding that the government of Maryland has taken steps to reduce its share of pollution in the watershed. That does not appear to be the case with Virginia. As stated on page 7 of the Draft TMDL summary, the VA plan contains "serious deficiencies", meeting neither the levels for nitrogen or phosphorus emission. Governor McDonnell is right in his plan that it

is being developed "within the worst economy of a generation". But the challenge to restore the bay should be regarded as just that, one that is doable, not insurmountable.

To that end, the EPA should consider the impact a stricter plan would have on the economy of Virginia, as those plans that can be shown to create jobs and be less costly to the state would garner more public support, which could force the administration's hand if necessary. Specifically, farm runoff, a large problem, could be dealt with more effectively if EPA officials communicated directly with farmers and could convince them to implement low-cost plans, or at least subsidize them. Cost must be considered because the states are likely to bear much of the burden, and effective plans will be hampered by the states' who do not wish to pay out of pocket, leaving no improvement for the environment at all.

Jordan Baxter

I think that the "pollution diet" that is implemented needs to have enough backup plans and reassurances so that there is no room for failure. In the past, the WIPs have not lived up to their reasonable assurances and actual achievement of pollution targets. Without accountability, how can a 60% reduction by 2017 and 100% reduction by 2025 be successful?

The TMDL has proven that it needs to be drastic. After a presidential executive order making the Chesapeake Bay a high priority item, I feel that the most important part of the following steps is the "adaptive management." As progress continues and improvements are made, it is important to adapt the way water quality is being managed, but avoid the necessity of federal actions or consequences. If something is not written into the TMDL about revisiting the system besides at the two goal dates. What is the plan about monitoring the progress over time? Is there room for revision or are there requirements for revision to the TMDL?

Danielle Feder

The prevalent problem of the Chesapeake Bay poses a serious threat to 17 million people and about 3500 animal species. The current implemented action is not strong enough, as the Bay continues to fall way below the standards necessary for a healthy environment. Beginning in the 1970s the Chesapeake Bay has been identified as a marine dead zone and pollution from point and nonpoint sources have dramatically damaged the ecosystem. The runoff from nearby farms in addition to excess phosphorous and nitrogen cause algae blooms that deplete oxygen levels and convert the bottom of the bay into a muddy wasteland. Fish and oysters to name a few are suffering which are impacting the fisheries and taking away jobs. Also the waters have become unsafe for recreation and areas have been blocked off from swimming or boating.

The EPA has drafted a TMDL "pollution diet" to restore the bay back to healthy and normal levels. Under the Clean Water Act it is mandated that all waters must be "swimmable and fishable" and the bay definitely does not qualify. As such, the TMDL will forcefully implement strong regulations and hopes to attain these measures by the year 2025. According to the EPA executive summary the TMDL aims to ensure "that cleanup commitments are met, including short-and long-term benchmarks, a tracking and accounting system, and additional federal backstop measures, if necessary, to spur progress". The TMDL will finally regulate and make improvements at restoring the bay, as President Obama issued an Executive Order in 2009 to restore the Chesapeake Bay and he will be overlooking the process. These efforts are needed and will make a significant impact once enacted.

Elspeth McIntyre

Under section 5.1 (current programmes and capacities) it's mentioned that nutrient credits can be traded within the same river basin. However, this does not take into account the relative natural and anthropogenic filtration systems along the river. For example, If a point source pollutes at a high level in the river, after which the river passes through a riparian zone when nitrates are filtered out, the impact upon the river is not so great as if a point source polluted below that riparian zone, as few pollutants would reach the bay in the former scenario. If credits can be exchanged, and the lower course polluter can therefore pollute more this will negatively affect the pollution entering the bay, even if the same amount enters the river.

Under section 5.4 (Strategy to fill gaps) the WIP references discharges by homeowners. In the Northern section of Richmond, the relevant watershed is the Chickohominy River, and a relatively recent study by Dr Don Forsyth into attitudes about the watershed in the area revealed that most homeowners are unaware of the impacts they have on the river, despite considering themselves environmentalists. This particular river segment has high pollution levels that definitely affect the swimmability, yet the section of the WIP is vague as to how it will achieve reductions in single household pollution, and how it will interact with homeowners to achieve reductions.

Alex Lescroart

There are over 17 million people residing in the Chesapeake Bay watershed region, all of who (whether it be indirectly or directly) are affected by the poor water quality of the Bay. Whether they are fishermen desperate for a steady market and income or children who are no longer allowed to splash around in the streams with their friends, the impacts of a degraded Chesapeake Bay covers a vast distribution of people and a wide

variety of interests. Cleaning up the Chesapeake Bay will lead to greater public health and safety, more stable jobs, and even give a boost to the economy. By supporting the EPA fulfill their duty of upholding the Clean Water Act, we are improving the future for both our lifetimes and those to come.

Under the Clean Water Act, the EPA has the obligation and responsibility to protect our waters and prevent pollution and preserve the wildlife within our lakes, rivers and streams. In the 1972 amendments, the permit program "NPDES" or "National Pollutant Discharge Elimination System" was formulated and structured to regulate the discharge of pollutants from point sources. Without a permit, point source pollution was considered illegal. While this ruling has been in place for many years, there have been many missed deadlines and insufficient efforts in this area. The Bay still need to lose 63 million pounds of nitrogen and 3.1 million pounds of phosphorus to get to a "healthy" weight of 187.4 million pounds of nitrogen and 12.5 million pounds of phosphorus released into the Bay annually. I think it is good that the Virginian Watershed Implementation Plan has some deadlines (such as Phase II WIPs due to EPA in draft by June 1, 2011 and final by November 1, 2011), but I worry what will actually happen if these deadlines are missed. How is the EPA going to enforce these? The EPA must give the states sufficient time to really understand the TMDL nutrient numbers and formulate detailed and specific step-by-step programs to achieve their goals. Deadlines and funding are key components of this document. Without setting strict deadlines, the pace of action tends to slow and eventually stall. Opportunities for funding must also be closely studied for without funding, it is hard to motivate or convince people that our cause is legitimate and realistic. It is our responsibility, as the people of the Chesapeake Bay watershed to voice our opinions to those who will listen and act in response to our concerns.